

Application No. 10/535,360
Technology Center 3754
Submission Accompanying RCE under 37 CFR §1.114

REMARKS

Please enter this Submission in response to the Request for Continued Examination filed herewith under 37 CFR §1.114.

In response to an Office Action dated March 22, 2007 (Paper No. 20070319), and an Advisory Action dated June 7, 2007 (Paper No. 20070605), Applicants have amended the claims as set forth above. More particularly:

The claims have been amended to use the terms "radially-outward portions" and "radially-inward portions" instead of "top portions" and "bottom portions," respectively, as the former is more descriptive of the convolutions (2), which are each defined about the entire perimeter of the device/bellows.

Independent claims 1 and 11 have been amended to clarify that the convolutions (2) are "nonhelical." Support for this limitation is based on the distinction made on page 7, lines 23-24, between convolutions "formed as a helix along the longitudinal axis" and convolutions "placed perpendicular to the longitudinal axis," the latter of which must therefore be "nonhelical." The nonhelical nature of the convolutions (2) is further clarified by revising the descriptions of the top and bottom portions (T,B) as noted above, namely, the top portion (T) of each convolution (2) is a "radially-outward portion" and the

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bottom portion (B) of each convolution (2) is a "radially-inward portion."

Claims 1 and 11 have been further amended to clarify the descriptions of the outside surface (4) and its first and second sections (7,9) by describing them in reference to a single convolution (2).

Claims 1 and 11 have also been amended to incorporate the limitations of claim 5 (canceled without prejudice), with the description of this limitation being revised to more closely correspond to the description found at page 5, lines 21-26, of the specification.

Claim 6 has been revised so that the description of its limitation more closely corresponds to the description found at page 5, lines 21-26, of the specification.

Claim 7 has been amended to depend directly from claim 1 and to avoid potential confusion of the term "section" with the terms "first section" and "second section" in its parent claim 1.

Finally, new dependent claims 12 and 13 have been added that recite a limitation found at page 5, lines 28-29, of Applicants' specification. That "the curve is at least two times differentiable" evidences that the curve is based on a mathematical equation, and limits the type of mathematical equation that defines the curve.

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Applicants believe that the above amendments do not present new matter. Favorable reconsideration and allowance of remaining claims 1-4 and 6-13 are respectfully requested in view of the above amendments and the following remarks.

Prior Art Rejections

Independent claims 1 and 11 and remaining dependent claims 2-4 and 6-10 (which depend from claim 1) are currently rejected as follows.

Claims 1-3, 5-8, and 11 is anticipated by U.S. Patent No. 4,246,937 to Müller under 35 USC §102;

Claims 1-11 is anticipated by U.S. Patent No. 6,006,788 to Jung et al. (Jung) under 35 USC §102;

Claims 1-3 and 5-11 is anticipated by U.S. Patent No. 6,631,741 to Katayama et al. (Katayama) under 35 USC §102; and

Claim 4 is unpatentable over Katayama under 35 USC §103.

As now amended, independent claims 1 and 11 require nonhelical convolutions. In contrast, both Müller and Jung require helical tubes - Müller requires a helical tube 2 in order to thread a reinforcement body 7 onto the tube 2; Jung requires a helical tube 1 in order to support the tube 1 with a

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"wire (9) coiled in spires." Accordingly, the rejections based on anticipation by Müller and Jung are believed to be overcome, and Applicants respectfully request their withdrawal.¹

Furthermore, any suggestion to modify the teachings of Müller and Jung would be improper because such a modification would render Müller's reinforcement body 7 and Jung's coiled wire 9 inoperable for their intended purposes.

Claims 1 and 11 had already required that "the curvature of the outside surface [is] numerically smaller at the [radially-outward] portions than at the [radially-inward] portions," and this has now been clarified to refer to each radially-outward portion T and each radially-inward portion B. Finally, claims 1 and 11 now require that "the curve within each of the first sections [has] one global maximum located at the radially-outward portion thereof, the curve within each of the second sections [has] a global minimum located at the radially-inward portion thereof." Katayama's corrugated hose does not meet these limitations. From the below annotated reproduction of Katayama's Figure 1, it can be seen that, while the curvature ($1/R$) at the "radially-outward

¹ In view the amendments to claims 1 and 11, Applicants withdraw their argument that the outside surface 4 of the device/bellows must be defined by a metal wall. Therefore, for example, claims 1 and 11 allow for the presence of a coating on the device/bellows.

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portions" along the upper profile of the tube are numerically smaller than the curvature ($1/r$) at the adjacent "radially-inward portions" of the upper profile, the curvature ($1/R$) at the "radially-outward portions" along the lower profile of the tube are numerically larger than the curvature ($1/r$) at the adjacent "radially-inward portions" of the lower profile. Therefore, Katayama's corrugated hose cannot be described by "the curvature of the outside surface being numerically smaller at each of the radially-outward portions than at each of the radially-inward portions."

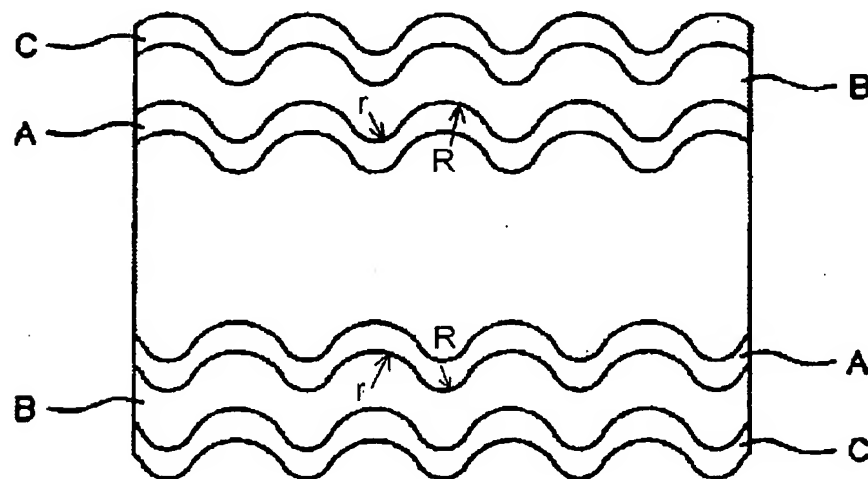


FIG. 1

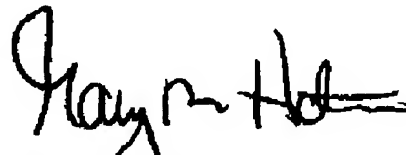
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For the above reasons, Applicants respectfully believe that Katayama does not anticipate Applicants' claimed invention, and there is no basis of record to modify Katayama to have this construction. Therefore, Applicants respectfully request withdrawal of the rejections based on Katayama 35 USC §§102 and 103.

Closing

Should the Examiner have any questions with respect to any matter now of record, Applicants' representative may be reached at (219) 462-4999.

Respectfully submitted,


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September 24, 2007
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